

## AMENDMENTS TO THE SPECIFICATION

Please insert the following new paragraph at line 8 on page 5 of the instant specification:

One embodiment in accordance with the present invention pertains to a method of providing a molecular wire transistor that includes a pair of crossed wires, where at least one of the wires includes a doped semiconductor material. In the present embodiment, a first wire having a first conductivity type and a second wire, with either Lewis acid functional groups or Lewis based functional groups that provide the second wire with a second conductivity type opposite to that of the first wire, are provided. The pair of wires is caused to cross, thereby forming a junction with modulation doping where one wire crosses the other.